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PLANT IMMIGRANTS.

No. 146. **JUNE, 1918.**

GENERA REPRESENTED IN THIS NUMBER.

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Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

February 14, 1919.

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Astragalus sinicus (Fabaceae), 45995. **Genge clover.** From Yokohama, Japan. Purchased from the Yokohama Nursery Company. **Late Giant** variety. "Another field crop very extensively grown for human food, and partly as a source of soil nitrogen, is closely allied to our alfalfa. Tender tips of the stem are gathered before the stage of blossoming is reached and served as food after boiling or steaming. It is known among the foreigners as **Chinese clover.** The stems are also cooked and then dried for use when the crop is out of season. For the tender shoots, when picked very young, wealthy Chinese families pay an extra high price, sometimes as much as 20 to 28 cents our currency per pound." (King, Farmers of Forty Centuries, p. 128.)

Berberis japonica bealei (Berberidaceae), 45973. From Batum, Russia. Presented by the Superintendent, Botanical Garden. A stiff evergreen shrub native of China, often 10 feet in height, with thick, unbranched stems. The pinnate leaves, 1 to 2 feet long, are made up of 7 to 13 obliquely ovate, dark dull green leaflets 8 inches long by 6 inches wide, having 4 to 6 large spiny teeth along each margin. The delightfully fragrant lemon-yellow flowers are borne in a cluster of several slender erect racemes 6 to 9 inches long, and are followed by oblong purple berries one-half of an inch long. (Adapted from Bean, Trees and Shrubs Hardy in the British Isles, vol. 1, p. 244.)

Cucumis melo (Cucurbitaceae), 46029. **Australian casaba.** From Burringbar, Australia. Presented by Mr. B. Harrison. "I am enclosing seeds of the **Australian casaba,** the correct name of which I do not know, but which I believe originally came from India. It is a most prolific plant, bearing cream-colored fruit about the size of a cucumber. It is sometimes called the **apple melon,** and is quite popular here, being very palatable when eaten with sugar or made up into pies. It is hardy, prolific, and early, and should thrive well throughout the United States."(Harrison.)

Decaisnea insignis (Lardizabalaceae), 45977. From India. Seeds presented by Mr. George F. Mitchell, Washington, D. C., who obtained them from Mr. G. H. Cave, Lloyd Botanic Garden, Darjeeling, India. "A bush from northern Sikkim, that bears wonderful fruit about as large around as one's thumb and about 4 inches long. Mr. Cave sent a man to Sikkim especially to

secure the seed of this fruit." (Mitchell.) An upright, sparingly branched shrub, much resembling a large-leaved sumac, found in the eastern Himalayas in India. The leaves, often 3 feet long, are made up of 13 to 25 elliptic, acuminate leaflets, 2 to 5 inches long, bright green above and slightly glaucous beneath. The racemes of pendulous, greenish flowers resemble those of a yucca, but are smaller. They are followed by yellow, edible fruits, 3 to 4 inches long and about 2 inches thick, filled with a whitish pulp and black seeds. (Adapted from Bailey, Standard Cyclopedia of Horticulture, vol. 2, p. 974.)

Dioscorea bulbifera (Dioscoreaceae), 45994. **Yam.** From Mayaguez, Porto Rico. Presented by Mr. C. F. Kinman, Horticulturist, Porto Rico Agricultural Experiment Station. "The aerial tubers of this yam are somewhat better for food than the ground tubers, according to Mr. C. F. Kinman. The flesh is yellow and rather strong-flavored, - often practically inedible. The aerial tubers are very tough-skinned and keep for a long time." (R. A. Young.)

Dioscorea pentaphylla (Dioscoreaceae), 45991. **Yam.** From Mayaguez, Porto Rico. Presented by Mr. C. F.Kinman, Horticulturist, Porto Rico Agricultural Experiment Station. "A rather small, smooth-skinned yam, called in Porto Rico **potato yam.** Said by Mr. C. F. Kinman to have come from Africa. The tubers, when well-grown, average about 12 ounces in weight. The skin somewhat resembles that of the white potato. The flesh is usually white, slightly mealy when cooked and mashed, and is sweet. These qualities appear to be variable and, while the yam is sometimes very good, it is occasionally very poor. Of possible value for central and southern Florida." (R. A. Young.)

Dioscorea sativa (Dioscoreaceae), 45993. **Yam.** From Mayaguez, Porto Rico. Presented by Mr. C. F. Kinman, Horticulturist, Porto Rico Agricultural Experiment Station. "**Guinea.** A large yam, said to reach a weight of 20 to 25 pounds in Porto Rico, and to be of good quality. It thrives there in heavy clay soil and with a rather small amount of rain. This variety appears to be slightly different from those (S. P. I. No. 45990) recently received from Trinidad." (R. A. Young.)

Dioscorea trifida (Dioscoreaceae), 45992. **Yampi.** From Mayaguez, Porto Rico. Presented by Mr. C. F. Kinman, Horticulturist, Porto Rico Agricultural Experiment Station. "A root-covered, white, sweetish **yampi.** Usually of very good quality, though somewhat fibrous. The tubers are said to average about three-quarters of a pound each when well grown. This **yampi** may prove of value on the peninsula of Florida." (R. A. Young.)

Erythrina arborescens (Fabaceae), 45998. **Coral tree.** From Egypt. Presented by Mr. Thomas W. Brown, Director, Horticultural Section, Ministry of Agriculture, Giza, Mouderieh. A low tree found in northern India, from Kumaon to Sikkim and in the Khasia Hills, up to an elevation of 7,000 feet. The light green pinnate leaves are made up of 3 leaflets, 5 to 7 inches long and nearly as broad. The racemes of vivid scarlet flowers, sometimes 15 inches long, appear during the hot season while the tree is still leafless. The lanceolate, curved, brownish pubescent pods contain 2 to 10 large, dull black seeds. The wood is white, soft and light, and is used for making boxes and toys. (Adapted from Brandis, Indian Trees, p. 227.)

Holboellia latifolia (Lardizabalaceae), 45978. From India. Seeds presented by Mr. George F. Mitchell, Washington, D. C., who obtained them from Mr. G. H. Cave, Lloyd Botanic Garden, Darjeeling, India. "Grows in Darjeeling, and is a vine bearing a nice fruit, purple in color, the size of one's thumb, with subacid pulp. The flower is also very showy. The native name of this fruit is **gophila.**" (Mitchell.) A twining shrub from India, with digitately compound leaves having 3 to 7 obovate to oblong, coriaceous leaflets, 2 to 4 inches long. The fragrant flowers, appearing in small racemes, are of 2 kinds, the staminate being greenish and the pistillate purple. The edible fruits, usually 2 together, are about 4 inches long by 2 inches thick, rosy-purple in color and filled with small black seeds. (Adapted from Bailey, Standard Cyclopedia of Horticulture, vol. 3, p. 1496.)

Livistona mariae (Phoenicaceae), 45980. **Palm.** From South Australia. Presented by Mr. J. F. Bailey, Director, Botanic Garden, Adelaide. "These seeds were obtained from the Macdonnell Range through Dr. E. Angas Johnson of this city." (Bailey.) An erect palm with fan-shaped leaves divided into narrow plicate

segments. This palm was found in the Glen of Palms in the Macdonnell Range, and seems to be very little known. (Adapted from Bentham, Flora Australiensis, vol. 7, p. 146.)

Prunus glandulosa (Amygdalaceae), 46003. **Cherry.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 1303. Ichang, Hupeh, China. March 4, 1918.) A spreading shrub, with many slender twigs, growing to a height of from 3 to 5 feet, flowering early in spring with a multitude of small, rosy-white flowers which are followed by an abundance of small fruits of purple-black color and of fresh sour taste. These tiny cherries lend themselves well to be made into excellent preserves and are utilized so by the Roman Catholic Missionaries in the southwest part of Hupeh, where this bush cherry is found very frequently in gardens. Since this species of Prunus thrives in regions with high summer temperatures and great humidity it probably will succeed in the South Atlantic and Gulf States. By selection and hybridization larger-fruited forms should be developed and a new fruiting shrub for the home garden would be the result. Obtained from the garden of the Roman Catholic convent at Ichang. Chinese name **Gai yuen tao,** meaning 'dwarf diminutive peach'." (Meyer.)

Sabinea carinalis (Fabaceae), 46026. From Dominica, British West Indies. Presented by Mr. Joseph Jones, Curator, Botanic Station. This small tree is known locally as **Bois Charibe,** and is one of the most showy of our native plants. It is a very fine flowering tree and I have seen nothing in the tropics to surpass it as a mass of color. If grown on fairly good land it will not make a good show but if planted on a dry, rocky hillside where it will be scorched by the sun for a period of 3 or 4 months each year, it makes a marvelous display of flowers. It would probably succeed in the hot parts of California. (Adapted from transmitting letter of Mr. Jones.) A shrub or small tree with abruptly pinnate leaves having 6 to 8 pairs of oblong leaflets. The large, bright scarlet flowers are borne in fascicles of 3 to 5 and appear before the leaves. (Adapted from Grisebach, Flora of the British West Indian Islands, p. 183.)

Viburnum dilatatum (Caprifoliaceae), 45974. From Batum, Russia. Presented by the Superintendent, Botanic Garden. A hardy, handsome, free-flowering shrub, up to 10 feet in height, found in China and Japan. The broadly ovate, abruptly short-pointed, coarsely serrate leaves, 2 to 5 inches long, are pubescent on both sides. The pure white flowers in cymes 3 to 6 inches across, are followed by clusters of scarlet fruits which remain on the branches well into the winter. (Adapted from Bailey, Standard Cyclopedia of Horticulture, vol. 6, p. 3461.)

Notes from Correspondents.

Believing that the following letter will prove of interest to our collaborators, inasmuch as it deals almost exclusively with plants with which we are experimenting or that we are trying to secure for experimentation, we are quoting it entire.

"Since returning from Algeria I have been so busy that I have not had time to write you about a number of plants which Dr. Trabut brought to my attention and which may be of interest to this country.

"*Argania.* I am sending you a small quantity of seeds collected from an Argania tree growing in a garden in the School of Medicine in Algiers.

"*Berseem.* By 20 years' selection from the Muscawy race, Dr. Trabut has obtained a strain which is perfectly hardy at Algiers. He finds that the best results are obtained by sowing in October, this early sowing giving superior cold resistance. At the Jardin d'Essai, at Algiers, we saw a lawn of drilled alfalfa which it is customary to seed between the rows of Berseem in October, thus obtaining a fresh green covering throughout the year. It might be interesting to try this method of seeding Berseem for forage purposes in the warmer part of the Southwest.

"*Pinus canariensis.* Dr. Trabut considers this the finest of all pines for planting under rather dry conditions. A dry, steep hillside above the Jardin d'Essai, at Algiers, where the soil is very shallow and must contain extremely limited moisture during the greater part of the year, has a fine stand of these pines. The tree is a very handsome one, often branched, with long pendant needles and large cones.

"*Buxus balearica.* We saw this handsome shrub or small tree growing at Algiers. It is said to be native in the mountains of Morocco as well as in the Balearic

Islands. It has larger leaves than the common Buxus.

"*Bignonia tweediana.* This handsome climber is remarkable for the fishhook-like tendrils which cling most tenaciously to any object. It is said to have handsome, large yellow flowers and appears to be very satisfactory for covering walls.

"*Platanus.* Dr. Trabut says that the plane tree commonly grown in Algeria and southern France is a hybrid of *P. orientalis* with *P. occidentalis.* The trees certainly show a great deal of variation and forms can be seen which resemble either of the supposed parents. Dr. Trabut says that the tree is easily propagated by cuttings.

"*Gingko.* Dr. Trabut says that this tree is easily grafted, which I had not known to be the case.

"*Grape hybrids.* At the Viticultural Station at Rouiba we saw a great number of hybrids between European and American grapes, *Vitis Berlandieri* being the American parent which gives the most satisfactory hybrids for Algerian conditions. Dr. Trabut says that there is a high positive correlation between round and unlobed leaves with resistance to drought and to calcareous soils.

"*Grapes.* Dr. Trabut has some very interesting varieties from the Kabyle mountain region in his collection. One variety which we tasted, known as 'Amokrane', is a large white grape somewhat softer than the 'Flame Tokay' (which Dr. Trabut believes to be also of Kabyle origin) but firm enough to ship well. It has more flavor than the 'Flame Tokay' and is moderately sweet and very refreshing. Dr. Trabut says that the variety known as 'St. Jeannet', grown in the Alpes Maritimes in France, is similar but superior to the 'Amokrane'. He says that all Kabyle grapes being grown from seed must be selected carefully for reproduction, inferior strains being often included under the same name as good ones.

"*Walnut.* Native Kabyle races of the Persian walnut (*J. regia*) do very well at Algiers, while French varieties do not. The latter succeed best on *J. nigra* stock.

"Kabyle varieties of grapes and walnuts are usually grown from the seed and, according to Dr. Trabut, are much more likely to come true from seed than European varieties which are vegetatively propagated.

"*Artichoke.* Dr. Trabut has a very interesting series of artichoke seedlings and hybrids in his experimental garden at Maison Carree, some of the forms having

nearly spineless leaves and producing enormous heads.

"*Sisal.* Dr. Trabut has hybridized the Sisal plant with an unnamed species of Agave from Potosi, Mexico, and has obtained a most interesting series of forms which he says has been studied by an assistant of Dr. Trelease. Dr. Trabut says that the types which have the broadest, flattest and most nearly spineless leaves yield the best fiber.

"*Opuntia hybrids.* Dr. Trabut has a very interesting series of hybrids between different species (*O. ficus-indica, O. tuna,* etc.) some of which have very large and juicy fruits.

"*Chloris gayana* is a very valuable grass in Dr. Trabut's estimation. He says that it is very aggressive and will often drive out Bermuda grass when in competition with it.

"*Pecan.* This nut is coming into favor in Algeria where it does very well and is being frequently planted. On the other hand, Dr. Trabut's efforts to popularize the grapefruit and avocado have not been successful, the French appearing not to care for either of these fruits.

"*Boston fern.* In his interesting little garden at the Ecole de Medecine Dr. Trabut has some interesting variations of the Boston fern, one of them having remarkably finely divided leaves and being almost as delicate in appearance as an Adiantum.

"*Saccharum spontaneum aegyptiacum.* This grass is considered by Dr. Trabut to be a very valuable sand binder, which he thinks will be useful in subtropical climates like that of Florida.

"*Tecoma hybrids.* We saw a great many hybrids of the arborescent form (*T. stans* type) with scarlet, orange, bright yellow, white and rose-colored flowers. This plant seems to be a very popular ornamental in Algeria.

"*Eucalyptus.* Dr. Trabut has been experimenting for years with species of Eucalyptus and has obtained some interesting hybrids. He says that *E. occidentalis* and *E. robusta* are the species which do best in poorly drained land containing alkali. *E. punctata* is an especially beautiful species of which we saw a remarkably fine avenue at L'Arba. In a planting made by the Forest Service a few miles west of Algiers the hybrid between *E. rostrata* and *E. rudis,* which is known as *E. algeriensis,* seeds itself readily. No other eucalyptus grown in Algeria is known to do this. Many of the large plantings of eucalyptus in Algeria have been cut down for firewood, since the war began, but they sprout readily from the

stump and soon renew themselves.

"*Lime.* On the Bertrand estate at L'Arba we saw a remarkably large-fruited variety of lime known as 'limoncello di Napoli'. The fruits must be three times as large as our ordinary lime.

"*Fig.* The Verdale variety does excellently in Algeria and is considered a very heavy yielder. There is but one crop but the figs ripen successively from September to December.

"*Celosia.* In the public garden at Oran we saw a beautiful, red-leaved Celosia grown as a bedding plant.

"*Saccharum* (*Erianthus*) *ravennae.* This grass is very common in wet ground at Biskra and ought to be valuable for ornamental planting, fully as effective in its way as pampas grass. It grows in clumps, is quite tall, and has a large, silvery, purplish panicle.

"Hybrid Origin of Cultivated Plants. — Dr. Trabut says that all cultivated plants, the origin of which he has carefully investigated, are hybrids between more than one natural species, and mentions alfalfa, oats, fig, and pear as illustrations.

"It is not unlikely that Dr. Trabut will visit the United States in the near future with Mr. Brunel, the Director of Agriculture of Algeria. Dr. Trabut, as you know, is a perfect storehouse of botanical and horticultural information, much of which has not been published. For this reason an opportunity to visit Florida and California with him would be one of the most instructive and interesting experiences any one could possibly have.

"I saw M. Jacques de Vilmorin in Paris and asked him in regard to the seed drying machinery which you spoke to me about. He said that the principle had been worked out and they were just starting to have one constructed when the war broke out, since which time nothing further had been done about it. M. de Vilmorin was mobilized and, after seeing some active service, was detailed to the Ministry of Agriculture, where, I understand, he has been placed in charge of emergency seed work.

"Very sincerely yours,"

(Signed) T. H. Kearney.

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